OFFICIAL

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1-5. (canceled)

6. (previously presented) A peptide of no more than about six amino acid residues, said peptide having the sequence Pro-Arg-Ala-Arg-Ile-Tyr (SEQ ID NO:24), Arg-Ala-Arg-Ile-Tyr (SEQ ID NO:25), Ala-Arg-Ile-Tyr (SEQ ID NO:26), or Arg-Ile-Tyr, wherein said peptide retains a C-terminal Ile-Tyr dipeptide sequence.

7. (canceled)

8. (currently amended) The peptide of claim [[7]] 6 wherein said peptide inhibits β1 integrin subunit dependent adhesion.

9. (currently amended) The peptide of claim [[7]] 8 wherein said peptide ~~modulates~~ inhibits α4β1 integrin dependent adhesion.

10. (currently amended) The peptide of claim [[9]] 8 wherein said peptide inhibits [[α4β1]] α5β1 integrin dependent cell adhesion.

11. (currently amended) The peptide of claim [[10]] 9 wherein said peptide inhibits α4β1 integrin dependent adhesion of Ramos cells to α4β1 integrin binding fibronectin fragments.

12-22. (canceled)

23. (currently amended) A method for [[modulating]] inhibiting the β1 integrin subunit dependent adhesion of cells to a substrate, the method comprising:

combining a peptide of claim 6 with a suspension of said cells to form a modified cell suspension; and

contacting the modified cell suspension with the substrate;

wherein the β1 integrin subunit dependent adhesion of said cells to a substrate is inhibited.

24. (canceled)

25. (canceled)

26. (currently amended) The method of claim [[25]] 23 wherein the β1 integrin is α4β1.

27. (currently amended) The method of claim [[24]] 23 wherein the β1 integrin is [[α4β1]] α5β1.

28. (currently amended) A method of inhibiting α4β1 integrin dependent adhesion of cells to integrin-binding fibronectin fragments, the method comprising:

combining a peptide of claim 6 with the cells to form a modified cell suspension; and

contacting the modified cell suspension with the integrin-binding fibronectin fragments;

wherein α4β1 integrin dependent adhesion of the cells of the modified cell suspension to integrin-binding fibronectin fragments is inhibited.

29. (previously presented) A peptide consisting of the sequence Pro-Arg-Ala-Arg-Ile-Tyr (SEQ ID NO:24), Arg-Ala-Arg-Ile-Tyr (SEQ ID NO:25), Ala-Arg-Ile-Tyr (SEQ ID NO:26), or Arg-Ile-Tyr.

30. (currently amended) A peptide of no more than about ten amino acid residues, said peptide having the sequence Pro-Arg-Ala-Arg-Ile-Tyr (SEQ ID NO:24), Arg-Ala-Arg-Ile-Tyr (SEQ ID NO:25), or Ala-Arg-Ile-Tyr (SEQ ID NO:26), ~~or Arg-Ile-Tyr, and~~ wherein said peptide retains a C-terminal Ile-Tyr dipeptide sequence.

31-36. (canceled)

37. (new) The peptide of claim 29 wherein said peptide inhibits β1 integrin subunit dependent adhesion.

38. (new) The peptide of claim 37 wherein said peptide inhibits α4β1 integrin dependent adhesion.

39. (new) The peptide of claim 37 wherein said peptide inhibits α5β1 integrin dependent cell adhesion.

40. (new) The peptide of claim 38 wherein said peptide inhibits α4β1 integrin dependent adhesion of Ramos cells to α4β1 integrin binding fibronectin fragments.

41. (new) The peptide of claim 30 wherein said peptide inhibits β1 integrin subunit dependent adhesion.

42. (new) The peptide of claim 41 wherein said peptide inhibits α4β1 integrin dependent adhesion.

43. (new) The peptide of claim 41 wherein said peptide inhibits α5β1 integrin dependent cell adhesion.

44. (new) The peptide of claim 42 wherein said peptide inhibits α4β1 integrin dependent adhesion of Ramos cells to α4β1 integrin binding fibronectin fragments.

45. (new) A method for inhibiting the β1 integrin subunit dependent adhesion of cells to a substrate, the method comprising:

combining a peptide of claim 29 with a suspension of said cells to form a modified cell suspension; and

contacting the modified cell suspension with the substrate;

wherein the β1 integrin subunit dependent adhesion of said cells to a substrate is inhibited.

46. (new) The method of claim 45 wherein the β1 integrin is α4β1.

47. (new) The method of claim 45 wherein the β1 integrin is α5β1.

48. (new) A method of inhibiting α4β1 integrin dependent adhesion of cells to integrin-binding fibronectin fragments, the method comprising:

combining a peptide of claim 29 with the cells to form a modified cell suspension; and

contacting the modified cell suspension with the integrin-binding fibronectin fragments;

wherein α4β1 integrin dependent adhesion of the cells of the modified cell suspension to integrin-binding fibronectin fragments is inhibited.

49. (new) A method for inhibiting the β1 integrin subunit dependent adhesion of cells to a substrate, the method comprising:

combining a peptide of claim 30 with a suspension of said cells to form a modified cell suspension; and

contacting the modified cell suspension with the substrate;

wherein the β1 integrin subunit dependent adhesion of said cells to a substrate is inhibited.

50. (new) The method of claim 49 wherein the β1 integrin is α4β1.

51. (new) The method of claim 49 wherein the β1 integrin is α5β1.

52. (new) A method of inhibiting α4β1 integrin dependent adhesion of cells to integrin-binding fibronectin fragments, the method comprising:

combining a peptide of claim 30 with the cells to form a modified cell suspension; and

contacting the modified cell suspension with the integrin-binding fibronectin fragments; wherein α4β1 integrin dependent adhesion of the cells of the modified cell suspension to integrin-binding fibronectin fragments is inhibited.